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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,165	10/27/2003	Luc Wuidart	S1022.81055US00	3053
23628 7590 02/02/2007 WOLF GREENFIELD & SACKS, PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 02210-2206			EXAMINER NGUYEN, VAN THU T	
			ART UNIT	PAPER NUMBER
			2824	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/694,165

Applicant(s)

WUIDART, LUC

Examiner

VanThu Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-9 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9, 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

1. This Office Action is in response to Request for Continued Examination (RCE) and Amendment filed on 12/26/2006.
2. Claims 1, 3-9, 11-17 are still pending and examined.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3-9, 11-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended limitation in claim 1, "the maximum resistance value being greater than a nominal resistance value exhibited by the polysilicon resistor at a constraint current **lower** than a current for which the polysilicon resistor's value exhibits the maximum", is inconsistent with specification, page 2, lines 16-18 and page 5, lines 17-22.

Same rejection applied for claim 9, lines 7-9.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claims 1, 3-9, 11-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is self-conflicted. For example, it recites limitation "... constraint current **greater** than a current for which its value exhibits a maximum" on lines 4-5, and later "constraint current **lower** than a current for which the polysilicon resistor's value exhibits the maximum" on lines 7-8.

For the purpose of examination, Examiner will not take limitation "the maximum resistance value being greater than a nominal resistance value exhibited by the polysilicon resistor at a constraint current lower than a current for which the polysilicon resistor's value exhibits the maximum" into consideration.

Same rejection applied for claim 9.

#### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-9, 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,687,325 to Wells ("Wells") in view of U.S. Patent No. 5,334,880 to Abadeer et al. ("Abadeer").

**Regarding claim 1**, Wells discloses, in FIG. 1, a monotonic counter (monotonic counter 116) formed as an integrated circuit (see column 2 lines 37-48), each counting bit being provided by a memory cell (EPROM, or other type of nonvolatile storage, see column 5 lines 39-44).

However, Wells does not disclose that each of the memory cells having limitations as set forth in claim 1, lines 2-5.

Abadeer discloses, in FIG. 1B, a programmable antifuse circuit formed of a polysilicon resistor (F1 and F2' in FIG. 1B and its detail in FIG. 3), programmable by irreversible decrease in its value (see Abstract); wherein the programming of said resistor is performed by temporarily submitting it to a constraint current greater than a current for which its value exhibits a maximum (current greater than threshold current  $I_{TH}$ ) (see column 7, lines 14-61).

Since Wells and Abadeer are both from the same field of endeavor, the purpose disclosed by Abadeer would have been recognized in the pertinent art of Wells.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use different types of nonvolatile memories, such as programmable antifuse circuit disclosed in Abadeer, other than EPROM because it is suggested in Wells (see column 5, lines 39-44).

**Regarding claim 3**, Wells discloses a circuit (all elements except memory blocks 41 in FIG. 4) for decoding the states contained in said cells for providing the resulting count (via DATA terminal).

**Regarding claim 4-5**, Abadeer further discloses, in FIG. 1B, each counting cell comprises, in parallel between two terminals of application of a supply voltage (between voltage supply and ground), two branches (one for each of polysilicon programming resistors F1 and

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F2') each comprising: a first polysilicon programming resistor (F1 or F2') connected between a first supply terminal (voltage supply) and a terminal of differential reading of the cell state (N1 or N2); and at least one programming switch (QPR1 or QPR2) connecting one of said read terminals to the second supply terminal (ground voltage).

**Regarding claim 6**, Abadeer inherently discloses that programming resistors F1 and F2' are two polysilicon resistors identical in size and in possible doping (F1 and F2' have equal initial resistance values).

**Regarding claim 7**, Abadeer also discloses each counting cell comprises a programming transistor (e.g. QPR1 or QPR2) in series with a programming resistor (e.g. F1 or F2', respectively)

**Regarding claim 8**, Abadeer discloses an inherent circuit for controlling the programming of each of the counting cells, capable of providing individual control signals to the programming switches (via control signals PRG1, PRG2, S1, S2, PASS, see Fig. 1B).

**Regarding claim 9, 11-17**, they are rejected under U.S.C. 103(a) since they recite similar limitations as in claims 1, 3-8.

### ***Response to Arguments***

9. Applicant's arguments filed 12/26/2006 have been fully considered but they are not persuasive.

(i) Applicant argues that there is motivation to modify Wells in view of Abadeer because Wells merely states that various types of non-volatile storage maybe used other than an

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EPROM, and does not teach or suggest using a programmable antifuse circuit. Applicant is kindly reminded that programmable antifuse circuit is also a subset of non-volatile storage.

(ii) Applicant argues neither Wells nor Abadeer teaches or suggest limitation “the maximum resistance value being greater than a nominal resistance value exhibited by the polysilicon resistor at a constraint current lower than a current for which the polysilicon resistor’s value exhibits the maximum”. However, this limitations has been withdrawn from consideration due to rejection under 112 1<sup>st</sup> and 2<sup>nd</sup> paragraphs above.

### *Conclusion*

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VanThu Nguyen whose telephone number is (571) 272-1881. The examiner can normally be reached on Monday-Friday, 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read "VanThu Nguyen". The signature is fluid and cursive, with a long horizontal stroke at the beginning and a trailing flourish at the end.

January 30, 2007

VanThu Nguyen  
Primary Examiner  
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